



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/594,839

09/28/2006

Motoaki Kamachi

Q80934

3708

23373 7590 05/19/2010  
SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

GOON, SCARLETT Y

ART UNIT

PAPER NUMBER

1623

NOTIFICATION DATE

DELIVERY MODE

05/19/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com  
PPROCESSING@SUGHRUE.COM  
USPTO@SUGHRUE.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,839	<b>Applicant(s)</b> KAMACHI ET AL.	
	<b>Examiner</b> SCARLETT GOON	<b>Art Unit</b> 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,7,14,15,21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,7,14,15,21 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20 April 2010</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Office Action is in response to Applicants' Amendment and Remarks filed on 13 April 2010 in which claims 2, 3, 6, 8-13 and 16-20 were cancelled, claim 1 is amended to change the scope and breadth of the claims, and new claim 22 is added.

The Declaration of Mr. Motoaki Kamachi (inventor), submitted by Applicants on 13 April 2010 under 37 CFR § 1.132, is acknowledged and will be further discussed below.

Claims 1, 4, 5, 7, 14, 15, 21 and 22 are pending in the instant application and are examined on its merits herein.

### ***Priority***

This application is a National Stage entry of PCT/JP05/06411 filed on 25 March 2005 and claims priority to Japan foreign application 2004-105929 filed on 31 March 2004 and U.S. provisional application no. 60/560607 filed on 9 April 2004. A certified copy of the foreign priority document in Japanese has been received. No English translation has been received.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) dated 20 April 2010 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. Accordingly, it has been placed in the application file and the information therein has been considered as to the merits.

### ***Rejections Withdrawn***

Applicants' amendment and remarks, filed 12 January 2010, with respect to the rejection of claims 1, 4, 5, 7, 14 and 15 under 35 USC § 102(b), as being anticipated by JP2003-252904 by Kakuchi *et al.*, have been fully considered and are persuasive because Kakuchi *et al.* do not teach an external preparation for the skin wherein the amount of the multi-branched polysaccharide contained therein is 0.1 to 80 mass %, as recited in the instant claim limitations. This rejection has been **withdrawn**.

In view of the cancellation of claims 2, 3, 6, 8-13 and 16-20 all rejections made with respect to claims 2, 3, 6, 8-13 and 16-20 in the previous Office Action are withdrawn. These rejections have been **withdrawn**.

The following are new ground(s) or modified rejections necessitated by Applicants' amendment, filed on 13 April 2010, wherein the limitations in pending claim 1 as amended now have been changed; claims 4, 5, 7, 14, 15, 21 and 22 depend from claim 1. The limitations in the amended claims have been changed and the breadth and scope of those claims have been changed. Therefore, rejections from the previous Office Action, dated 13 October 2009, have been modified and are listed below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1623

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

## **Section [0001]**

Claims 1, 4, 5, 7, 14, 15, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2003-252904 by Kakuchi *et al.* (IDS dated 28 September 2006, machine translation), in view of U.S. Patent No. 5,900,241 to Roulier *et al.* (herein referred to as the '241 patent; of record).

Kakuchi *et al.* teach a method for manufacturing multi-branching polysaccharides which are obtained by polymerization in the presence of a cation or anion initiator and an anhydrosugar (p. 4, section 0003). The multi-branching polysaccharides are useful as a thickener in a biocompatible gel or a medically-based material (p. 3, section 0001). The anhydrosugars can be a 1,6-anhydrosugar, a 1,4-anhydrosugar, a 1,3-anhydrosugar, or a 1,2-anhydrosugar (p. 4). More specifically, the anhydrosugars can be 1,6-anhydro- $\beta$ -D-glucopyranose, 1,6-anhydro- $\beta$ -D-mannopyranose, 1,6-anhydro- $\beta$ -D-galactopyranose, 1,6-anhydro- $\beta$ -D-altropyranose, 1,4-anhydro- $\alpha$ -D-xylopyranose, 1,4-anhydro- $\alpha$ -L-arabinopyranose, 1,4-anhydro- $\alpha$ -D-lyxopyranose, 1,3-anhydro- $\beta$ -D-glucopyranose, 1,3-anhydro- $\beta$ -D-mannopyranose, 1,2-anhydro- $\alpha$ -D-glucopyranose, 1,2-anhydro- $\beta$ -D-mannopyranose, and 5,6-anhydro- $\alpha$ -D-glucopyranose (p. 4 and 5). The hydroxyl groups of the anhydrosugar may be substituted with OR wherein R is a hydrogen atom or a hydrocarbon having 1-30 carbon atoms (p. 3, claim 4). The degree of branching of the multi-branching polysaccharide is between 0.05 to 1.00 (p. 5, section 0005). The water-soluble multi-branching polysaccharide can be synthesized in high reproducibility in large quantities to enable their use as a functional material on an industrial scale (p. 7, section 0010). Furthermore, unlike natural branching polysaccharides, such as amylopectin, the molecular weight and degree of branching can be controlled (p. 7, section 0010).

The teachings of Kakuchi *et al.* differ from that of the instantly claimed invention in that Kakuchi *et al.* do not teach that the multi-branched polysaccharide is present in the composition in the range from 0.1 to 80%.

The Roulier '241 patent teaches expanded solid compositions whose matrix contains an alveolar network made from a natural product or from a derivative of a natural product capable of being expanded, as well as cosmetic and dermatological compositions containing the expanded solid compositions. Natural products and derivatives thereof that are capable of being expanded and therefore preferably employed as the matrix include vegetable proteins, animal proteins, proteins derived from dairy products, gelatin, amylose and/or amylopectin, and starch-rich products containing amylose and/or amylopectin (column 2, lines 45-52). The expanded solid compositions are generally stored in the dry state, but is easily rehydratable after immersion in an aqueous medium in order to be used in make-up formulations such as foundations, or formulations for care or hygiene, such as creams, milks, bubble baths, gels and shampoos (column 2, lines 12-17). The matrix containing the alveolar network formed from a natural product or from a derivative of a natural product capable of being expanded is present in the compositions in a proportion ranging from 25 to 98% by weight relative to the weight of the composition (column 5, lines 35-40). Example 1 discloses dry shampoo in the form of pellets which comprise 35% by weight of wheat flour and 35% by weight of corn starch, both of which are composed of amylose and amylopectin polysaccharides (column 8, lines 15-25).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Kakuchi *et al.*, concerning a method for manufacturing multi-branched polysaccharides, with the teachings of the Roulier '241 patent, regarding expanded solid compositions whose matrix contains an alveolar

Art Unit: 1623

network made from a natural product or from a derivative of a natural product capable of being expanded for use in cosmetic and dermatological compositions. Since Kakuchi *et al.* teach that the multi-branching polysaccharides are useful as a thickener in a biocompatible gel or a medically-based material, and further teach that the multi-branching polysaccharides are more advantageous over natural branching polysaccharides, such as amylopectin, because the molecular weight and degree of branching of the disclosed multi-branching polysaccharides can be controlled, one of ordinary skill in the art would have been motivated to combine the teachings and substitute the amylopectin or starch polysaccharides of the shampoo composition disclosed in the Roulier '241 patent with the multi-branching polysaccharides disclosed by Kakuchi *et al.*, in order to receive the expected benefit, as suggested by Kakuchi *et al.*, that the water-soluble multi-branching polysaccharide can be synthesized in high reproducibility in large quantities to enable their use as a functional material on an industrial scale (p. 7, section 0010), and that the molecular weight and degree of branching can be controlled (p. 7, section 0010), thereby providing homogeneous polysaccharide structures. One of ordinary skill in the art would view that the ability to control the molecular weight and degree of branching of the multi-branched polysaccharide present in a dermatological product or cosmetic is advantageous because it would likely yield more reproducible properties for the cosmetic or dermatological composition, as compared to the heterogeneity observed with naturally branched polysaccharides, such as amylopectin. Furthermore, as the multi-branched polysaccharides disclosed by Kakuchi *et al.* have the same properties as that desired



Art Unit: 1623

for the expanded solid compositions disclosed in the Roulier '241 patent, namely that the product is capable of being expanded, one of ordinary skill in the art would reasonably expect the substitution to give a predictable result of being an expandable solid composition that can be used in cosmetic and dermatological applications.

Thus, the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

#### *Response to Arguments*

Applicants' arguments, filed 13 April 2010, with respect to the rejection of claims 6, 10, 11, 16 and 19-21 made under 35 USC § 103(a) as being unpatentable over JP2003-252904 by Kakuchi *et al.*, as applied to claims 1, 4, 5, 7, 14 and 15, further in view of U.S. Patent No. 5,900,241 to Roulier *et al.*, have been fully considered but are moot in view of Applicants' claim amendment. The Declaration of Mr. Motoaki Kamachi, submitted by Applicants on 13 April 2010 under 37 CFR § 1.132, is not relevant to this rejection and therefore will not be addressed herein.

Insofar as Applicants' arguments are still applicable to the instant rejection, Applicants argue that a person of ordinary skill in the art would not be motivated to employ the multi-branched polysaccharide of Kakuchi *et al.* in place of amylopectin to be used for cosmetic and dermatological compositions because although amylopectin is categorized as a multi-branched polysaccharide, it is water-insoluble and it is known that amylopectin is a substance which is used in external preparations for skin or make-up formulations only in a special case. Applicants also argue that the disclosure of

Art Unit: 1623

Roulier *et al.* relating to a solid composition and the usage thereof in either external preparations for the skin or make-up formulations is quite limited. These arguments are not persuasive because the multi-branched polysaccharides taught by Kakuchi *et al.* are water soluble polymers. Therefore, Applicants' statement that amylopectin is water insoluble and therefore has limited use in skin or make-up formulations, provides further motivation for one of ordinary skill in the art use the multi-branched polysaccharides taught by Kakuchi *et al.* as the multi-branched polysaccharides are taught to be water soluble, thereby providing a significant advantage over amylopectin. Furthermore, regarding Applicants' arguments that the disclosure of Roulier *et al.* relating to a solid composition and the usage thereof in either external preparations for the skin or make-up formulations is quite limited, Applicants are requested to note that the test for obviousness is not that one of ordinary skill in the art would see an extensive use from the combined teachings of the prior, but rather, the rationale to support a conclusion that the claim would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art. *KSR*, 550 U.S. at \_\_\_, 82 USPQ2d at 1395; *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282, 189 USPQ 449, 453 (1976); *Anderson 's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 62-63, 163 USPQ 673, 675 (1969); *Great Atlantic & P. Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 152, 87 USPQ 303, 306 (1950).

Art Unit: 1623

Thus, as Kakuchi *et al.* expressly discuss the advantage of their multi-branched polysaccharides over amylopectin, and Roulier *et al.* discuss the use of polysaccharides, such as amylopectin, for use as an expandable composition in cosmetic and dermatological compositions, such as a cream, gel or shampoo, one of ordinary skill in the art would have been motivated to substitute the amylopectin polysaccharide disclosed by Roulier *et al.* with the multi-branched polysaccharides disclosed by Kakuchi *et al.*, in order to receive the expected benefit that the water-soluble multi-branching polysaccharide can be synthesized in high reproducibility in large quantities to enable their use as a functional material on an industrial scale, and that the molecular weight and degree of branching can be controlled, thereby providing homogeneous polysaccharide structures which would thus yield compositions with reproducible properties.

Furthermore, as Kakuchi *et al.* teach that the anhydrosugars can be of a glucopyranose derivative form, one of ordinary skill in the art would be able to prepare multi-branched polysaccharides that would be considered derivatives of amylopectin, which Roulier *et al.* expressly teach is useful in their expandable composition. The advantages of the multi-branched polysaccharides taught by Kakuchi *et al.*, which would be derivatives of amylopectin when made using anhydropyranose, is that the branched glucose residues would be consistent and at defined positions, as Kakuchi *et al.* teach that the degree of branching can be controlled. One of ordinary skill in the art would consider this to be a significant advantage as the heterogeneity of a polysaccharide composition is known to affect a composition's properties, and therefore,

Art Unit: 1623

being able to control the heterogeneity of a polysaccharide to make a homogenous composition would provide a composition with consistent properties. Thus, one of ordinary skill in the art would have a reasonable expectation of success in using the multi-branched polysaccharides disclosed by Kakuchi *et al.*, such as those derived from a glucopyranose structure, for preparation of the expandable compositions disclosed by Roulier *et al.*, for use in cosmetic and dermatological compositions.

Applicants also argue that the solid composition of Roulier *et al.* cannot be used in make-up formulations in the form as it is, and that an operation is required to impart a water affinity in the solid composition of Roulier before they can be used in make-up formulations. This argument is not persuasive because the instantly claimed external preparation for the skin uses the transitional phrase “comprising,” which is open-ended and therefore does not exclude additional, unrecited elements, such as the inclusion of water, to render it useful in skin or make-up formulations.

Applicants additionally argue that the presently claimed product can have a composition with such versatility that the composition can be used in most forms for dermatological preparations, such as lotion and cream. This argument is not persuasive because Roulier *et al.* also teach that their product can be rehydrated into an aqueous formulation, such as a cream, a milk, a gel, a bubble bath or a shampoo, thus also having similar versatility as that argued by Applicants.

## **Section [0002]**

Claims 1, 4, 5, 7, 14, 15, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP2003-252904 by Kakuchi *et al.* (IDS dated 28 September 2006, machine translation) in view of PG Pub No. US 2002/00065328 A1 by Dederen *et al.* (of record).

The teachings of Kakuchi *et al.* were as disclosed above in section [0001] of the claim rejections under 35 USC § 103.

Although Kakuchi *et al.* teach that the multi-branching polysaccharide is useful as a thickener in a biocompatible gel or as a medically-based material, the reference does not expressly teach that the compound is used as an external preparation for the skin, or as a cosmetic. Furthermore, it is noted that Kakuchi *et al.* do not expressly teach that the multi-branched polysaccharide is present in 0.1 to 80%.

Dederen *et al.* teach a personal care or cosmetic oil in water emulsion that includes an oil emulsifier and a combination of a Xanthan polysaccharide and a polyglucomannan polysaccharide to provide enhanced stability. Personal care products include cosmetic skin creams, lotion and milks (paragraphs 0002 and 0009).

Polyglucomannan typically has a random glucose/mannose backbone, typically at a molar ratio of glucose to mannose in the range of about 1:1.5 to about 1:3, with various acetylated groups (paragraph 0011). The molecular weight of useful polyglucomannans can vary within a typical range of from about  $2 \times 10^5$  to about  $2 \times 10^6$  (paragraph 0011). The amount of polysaccharide stabilizer used is from about 0.02% to about 0.5% by weight of the emulsion (paragraph 0018).

Art Unit: 1623

As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Kakuchi *et al.*, concerning a method for manufacturing multi-branching polysaccharides, with the teachings of Dederen *et al.*, regarding a personal care or cosmetic oil in water emulsion that includes an oil emulsifier and a combination of a Xanthan polysaccharide and a polyglucomannan polysaccharide to provide enhanced stability. One of ordinary skill in the art would have been motivated to combine the teachings in order to receive the expected benefit, as suggested by Kakuchi *et al.*, that the water-soluble multi-branching polysaccharide can be synthesized in high reproducibility in large quantities to enable their use as a functional material on an industrial scale (p. 7, section 0010), and that the molecular weight and degree of branching can be controlled (p. 7, section 0010), thereby providing homogeneous polysaccharide structures. Additionally, as Dederen *et al.* teach that polyglucomannan is highly heterogeneous, like most natural polysaccharides, one of ordinary skill in the art would be motivated to substitute the polysaccharides described by Dederen *et al.* with those described by Kakuchi *et al.*, in the preparation of a cosmetic composition, as the synthetic polysaccharides described by Kakuchi *et al.* are likely to yield more reproducible properties for the cosmetic composition than heterogeneous natural polysaccharides.

Thus, the claimed invention as a whole is *prima facie* obvious over the combined teachings of the prior art.

*Response to Arguments*

Applicants' arguments, filed 13 April 2010, and the Declaration of Mr. Motoaki Kamachi, submitted on 13 April 2010 under 37 CFR § 1.132, with respect to the rejection of claims 1, 4-7, 10, 11, 14-16 and 19-21 made under 35 USC § 103(a) as being unpatentable over Kakuchi *et al.*, in view of PG Pub No. US 2002/00065328 A1 by Dederen *et al.*, have been fully considered but they are not persuasive.

Applicants argue that multi-branched polysaccharides are completely different from linear polysaccharides in terms of structure and physical properties, and are not used in a field where linear polysaccharides are applied. Applicants further provided drawings to show the differences between linear, branched, and multi-branched polysaccharides. Applicants also argue that the viscosity of multi-branched polysaccharides differ significantly from that of a linear polysaccharide, and further provide a Declaration by Mr. Kamachi to that effect. Applicants' arguments and the Declaration of Mr. Kamachi have been carefully reviewed but are not persuasive.

Specifically, Dederen *et al.* disclose the use of branched polysaccharides as a thickening agent to provide emulsion creams or gels, and Kakuchi *et al.* teach the use of multi-branched polysaccharides as a thickener in a biocompatible gel or medically-based material, and further teach that the degree of branching can be controlled, which is a significant advantage over naturally branched polysaccharides as one of ordinary skill in the art would consider the degree of branching to affect the polysaccharides' properties. Thus, one of ordinary skill in the art would have been motivated to substitute the polysaccharides described by Dederen *et al.* with those described by Kakuchi *et al.*,

in the preparation of a cosmetic composition, as the synthetic polysaccharides described by Kakuchi *et al.* are likely to yield more reproducible properties for the cosmetic composition than heterogenous natural polysaccharides. It is noted that Applicants' argue that the viscosity of the multi-branched polysaccharides and that of natural polysaccharides are significantly different, and that the Declaration of Mr. Kamachi provides a comparison of one multi-branched polysaccharide with several natural polysaccharides. However, Applicants' arguments are not commensurate in scope with that of the claimed invention. See MPEP § 716.02(d). Specifically, the claims are directed to a composition comprising a multi-branched polysaccharide compound. However, Applicants' arguments and the Declaration only pertain to one particular branched degree of multi-branched polysaccharides. As stated by Kakuchi *et al.*, the degree of branching can be controlled. Thus, it is unclear what the degree of branching is for the multi-branched polysaccharide used for comparison studies in the Declaration. Furthermore, Applicants are requested to note that the recitation "multi-branched" is a very broad term that could be interpreted to be equivalent to "branched" and having more than one "branch" from the core scaffold can be considered to be "multi-branched." Additionally, in the absence of any further guidance in the Specification that Applicants intend the recitation "multi-branched" to mean the structures drawn on p. 11 of the Remarks, "multi-branched" is considered to be synonymous with "branched." It is noted that the Specification at paragraph [0022] of the published applications states that "[t]he multi-branched polysaccharide derivative of the present invention has a structure in which part and/or all of the hydroxyl groups in



Art Unit: 1623

the multi-branched polysaccharide that constitutes the skeleton have been substituted by substituent(s)...[such as] by OR (wherein R represents a hydrogen atom, a hydrocarbon having 1 to 30 carbon atoms, or a hydrocarbon having 1 to 30 carbon atoms which has a heteroatom).” However, this statement in the Specification does not define a “multi-branched” polysaccharide as that which only has the structure and degree of branching as provided in Applicants' Remarks. Therefore, since Kakuchi *et al.* teach that the multi-branched polysaccharides are useful as a thickener, and that the degree of branching for their disclosed multi-branched polysaccharides can be controlled, it is considered *prima facie* obvious for one of ordinary skill in the art to alter the degree of branching to achieve a polysaccharide with the desired properties, such as that with a lower or higher viscosity, for use in cosmetic and dermatological formulations.

Therefore, the Declaration of Mr. Motoaki Kamachi is ineffective to rebut the *prima facie* case herewith.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 1623

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 4, 5, 7, 14, 15, 21 and 22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23, 24, 27 and 28 of U.S. copending application no. 11/088,794, in view of JP2003-252904 by Kakuchi *et al.* (IDS dated 28 September 2006, machine translation).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application is drawn to an external preparation for the skin comprising polysaccharide/functional compound complex wherein the multi-branched polysaccharide is composed of a saccharide structural unit, and at least one of the hydroxyl groups of the multi-branched polysaccharide is replaced by OR, wherein R represents a hydrogen atom, a hydrocarbon having 1-30 carbon atoms, or a hydrocarbon having 1-30 carbon atoms and hetero atoms (claim 1). The multi-branched polysaccharide is a polymer composed of a monomer or an anhydrosaccharide. The anhydrosaccharide is selected from 1,6-anhydrosaccharide, 1,4-anhydrosaccharide, 1,3-anhydrosaccharide, 1,2-anhydrosaccharide, and 5,6-anhydrosaccharide. The degree of branching of the multi-branched polysaccharide is 0.05 to 1.00. The external preparation or cosmetic that comprises 0.01 to 100% by mass of the polysaccharide/functional compound complex.

The claims of the instant application are drawn to an external preparation of cosmetic comprising a multi-branched polysaccharide with multi-branched polysaccharide skeletons consisting of anhydrosaccharides wherein at least one of the hydroxyl groups of the multi-branched polysaccharide skeleton is substituted by OR

Art Unit: 1623

wherein R represents a hydrogen atom, a hydrocarbon having 1-30 carbon groups, or a hydrocarbon having 1-30 carbon groups and a hetero atom. The branching degree of the multi-branched polysaccharide is 0.05 to 1.00. The external preparation or cosmetic comprises 0.1 to 80 mass % of the multi-branched polysaccharide.

The copending application does not disclose specific anhydrosaccharides other than the location of the anhydro moiety. Kakuchi *et al.* disclose multi-branching polysaccharides wherein the anhydrosugars can be 1,6-anhydro- $\beta$ -D-glucopyranose, 1,6-anhydro- $\beta$ -D-mannopyranose, 1,6-anhydro- $\beta$ -D-galactopyranose, 1,6-anhydro- $\beta$ -D-altropyranose, 1,4-anhydro- $\alpha$ -D-xylopyranose, 1,4-anhydro- $\alpha$ -L-arabinopyranose, 1,4-anhydro- $\alpha$ -D-lyxopyranose, 1,3-anhydro- $\beta$ -D-glucopyranose, 1,3-anhydro- $\beta$ -D-mannopyranose, 1,2-anhydro- $\alpha$ -D-glucopyranose, 1,2-anhydro- $\beta$ -D-mannopyranose, and 5,6-anhydro- $\alpha$ -D-glucopyranose (p. 4 and 5).

Thus, the instant claims 1, 4, 5, 7, 14, 15, 21 and 22 are seen to be obvious over claims 23, 24, 27 and 28 of U.S. copending application no. 11/088,794 in view of JP2003-252904 by Kakuchi *et al.* (IDS dated 28 September 2006, machine translation).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### *Response to Arguments*

Applicants' intent that the obviousness-type double-patenting rejections above be held in abeyance until it is the last rejection in this or the copending application, in the reply filed on 13 April 2010, is acknowledged.

***Conclusion***

In view of the rejections to the pending claims set forth above, no claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCARLETT GOON whose telephone number is 571-270-5241. The examiner can normally be reached on Mon - Thu 7:00 am - 4 pm and every other Fri 7:00 am - 12 pm.

Art Unit: 1623

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shaojia Anna Jiang/  
Supervisory Patent Examiner, Art Unit 1623

/SCARLETT GOON/  
Examiner  
Art Unit 1623